

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-008623**Date Inspected:** 17-Aug-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Barnett, William Buck**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge-K Components**Summary of Items Observed:**

Summary of Items Observed: On this date, Caltrans Quality Assurance Inspector (QA) Clete Henke was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR for observation of fabrication of the Hinge K Pipe Beams and related activities including in process welding and OIW Quality Control (QC) visual and nondestructive testing. The following observations were recorded:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Base Assembly 102A-1:

a111-1 forging to a110-1 base plate

The QA Inspector intermittently monitored OIW welder Phuong Huynh (WID H4) during in progress Submerged Arc Welding (SAW) at weld joints W1-30, W1-34 and W1-38 joining c106 stiffeners to a106 stiffener. The QA Inspector observed as OIW QC Inspector Bill Buck performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root pass at weld joints referenced above. Mr. Buck performed informational MT at root pass of these fillet joints at the behest of OIW QC management. Mr. Buck stated that he had located no rejectable indications. The QA Inspector intermittently observed as welder H4 continued to deposit SAW fill and cover passes in the horizontal (2G) position in accordance with approved welding procedures 4020 rev. 2. The QA Inspector noted the OIW welder was maintaining continuous preheat utilizing a torch. OIW QC Inspector Bill Buck was observed regularly monitoring and recording the in process SAW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the SAW parameters and minimum preheat/interpass temperature appeared to be in general compliance with the contract requirements -- (W1-34: 35. 2 volts, 570 amperes, 432mm/min travel speed). OIW welder Vincent Vu was observed intermittently grinding at interior weld terminations throughout the shift.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

OIW Fabrication Shop-Bay 6

Hinge-K Pipe Beam Fuse Assembly 120A-2:

a124-3 to a124-11

The QA Inspector intermittently observed OIW qualified welder Bounheune Savanh (WID S74) during in-process welding of Soudotape 316L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-2. The weld joint is identified as 316L 2nd Layer. Mr. Savanh was observed welding in the flat position utilizing automatic electro slag welding (ESW) overlay process with a .5mm x 60mm Soudotape 316L stainless electrode, filler metal brand Soudotape class EQ316L automatic. The QA Inspector noted that 316L 2nd Layer was completed at about 1930 hours and 316L 3rd Layer was set up and initiated shortly thereafter. 316L 3rd Layer was in-process for the remainder of the shift. An OIW helper was observed assisting welder S74 during ESW activity. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process ESW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the ESW parameters (1200 amps, 25.7 volts, 267mm/min travel speed) and minimum preheat temperature of 70° F appeared to be in general compliance with the contract requirements and approved OIW Welding Procedure Specification (WPS) 7003.

OIW Storage Yard

Hinge-K Pipe Beam Fuse Assembly 120A-8:

a124-8 to a124-16

The QA Inspector was contacted by OIW QC Inspector Steve Barnett and notified that he had completed QC Magnetic particle Testing (MT) and Visual Inspection (VT) of Partial Joint Penetration (PJP) weld joints WM3-12, WM3-13, WM3-14, WM3-15, WM3-16 & WM3-17 which are contained within the right hand (RH) half of Fuse assembly 120A-8 identified as a124-16. The referenced testing concluded QC NDT on the assembly prior to rough machining. The QA Inspector subsequently performed 100% VT & 10% MT verification at the locations noted above finding the cover passes to be in general compliance with contract documents. Please reference TL-6028 report for this date for details.

Material, Equipment, and Labor Tracking:

The QA Inspector performed verification of personnel involved with this project and equipment in use. The QA Inspector accounted for 4 OIW production personnel and 2 Quality Control Inspector present on this date.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

As noted in the body of the report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677 , who represents the Office of Structural Materials for your project.

Inspected By:	Henke,Clete
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Quality Assurance Inspector

Reviewed By:	Adame,Joe
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QA Reviewer
